

**10 språk
1 time**

Bash

```
echo Hello World!
```

Unix shell written to replace Bourne shell.
Initial release: 1989

Bash

```
#!/bin/bash
book=./the_adventures_of_sherlock_holmes.txt
lines=tr -cs "[:alpha:]" "\n" < $book
unique=sort $lines | uniq -c
sort $unique -r > wordlist.txt
```

Bash problems

- Strange syntax
- Difficult to handle

Python

```
print("Hello world!")
```

High-level programming language
made by Guido van Rossum.
Initial release: 1991

Python

```
from urllib.request import build_opener, urlopen
from urllib.error import URLError
from bs4 import BeautifulSoup, SoupStrainer

class Spider:

    def __init__(self):
        self.pagereader = build_opener()

    def scrape(self, link):
        print("Finding links on: ", link)
        try:

            page = self.pagereader.open(link, None, 15)
            soup = BeautifulSoup(page, "html.parser")
            for tag in soup('a'):
                if tag.has_attr('href'):
                    url = tag['href']
                    print("Found link: ", url)

        except URLError as e:
            print("Error on accessing url, aborting.")

if __name__ == '__main__':
    spider = Spider()
    spider.scrape("http://nrk.no")
```


Python problems

- Inconsistent
- UTF-8 (in python 2)
- Documentation

Go

```
package main

import "fmt"

func main() {
    fmt.Println("Hello World!")
}
```

Programming language made by Google.
Initial release: 2011

Go

```
package main

import "fmt"

func fib(n int) int {
    if n == 0 {
        return 0
    } else if n == 1 {
        return 1
    }

    return fib(n-1) + fib(n-2)
}

func main() {
    for {
        fmt.Print("Please write a number: ")
        var i int
        fmt.Scanf("%d", &i)

        n := fib(i)
        fmt.Printf("The %d fibonacci number is: %d\n", i, n)
    }
}
```

Go problems

- Untested
- No inheritance
- No warnings, only errors

Clojure

```
(println "Hello World!")
```

A lisp dialect on the jvm created by Rich Hickey.
Initial release: 2007

Clojure

```
(ns example)

(defmacro defmemo [name args & rest]
  `(def ~name
     (memoize
      (fn ~args ~@rest))))

(defmemo levenshtein [str1 str2]
  (let [len1 (count str1)
        len2 (count str2)]
    (cond (zero? len1) len2
          (zero? len2) len1
          :else
          (let [cost (if (= (first str1) (first str2)) 0 1)]
            (min (inc (levenshtein (rest str1) str2))
                 (inc (levenshtein str1 (rest str2)))
                 (+ cost
                    (levenshtein (rest str1) (rest str2))))))))))

(levenshtein "kitten" "sitting") ;; => 3
```

Clojure problems

- Dynamically typed
- Untested
- Difficult to debug

Javascript

```
alert("Hello world");
```

Programming language for the web.
Created at Netscape by Brendan Eich.
Initial release: 1995

Javascript

demo

```
function init() {
  var canvas = document.getElementById('canvas');
  canvas.width = document.width;
  canvas.height = document.height;

  var ctx = canvas.getContext('2d');
  window.onmousemove = function(event) {
    r = Math.floor(Math.random()*255);
    g = Math.floor(Math.random()*255);
    b = Math.floor(Math.random()*255);
    ctx.fillStyle = "rgba("+r+", "+g+", "+b+", 0.5)";
    ctx.fillRect(event.clientX, event.clientY, 20, 20);
  };
};
```


Javascript problem

- Documentation
- Variable scoping
- Semicolon